

Relative Absorption of Light by Biological Tissues

Laser light's monochromaticity is responsible for its selective effect on biologic tissue. Whenever light hits tissue, it can be transmitted, scattered, reflected, or absorbed, depending on the type of tissue and the wavelength (color) of the light. However, light **absorption** must take place for there to be any biologic effect, and a given wavelength of light may be strongly absorbed by one type of tissue, and be transmitted or scattered by another. Each type of tissue has its specific absorption characteristics depending on its specific components (i.e., skin is composed of cells, hair follicles, pigment, blood vessels, sweat glands, etc.) **The main absorbing components, or chromophores, of tissue are:**

- **Hemoglobin** in blood
- **Melanin** in skin, hair, moles, etc.
- **Water** (present in all biologic tissue)



